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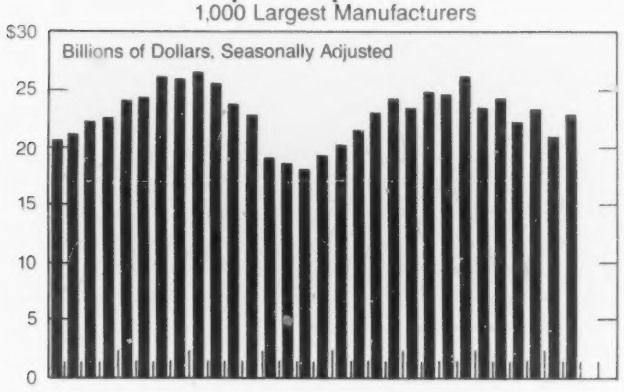
The Conference Board's
Economic Analysis Program

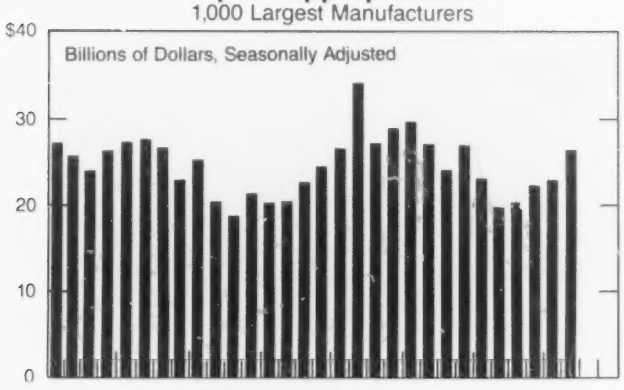
Manufacturing Investment Outlook

A Quarterly Report from The Conference Board **Fall 1987**

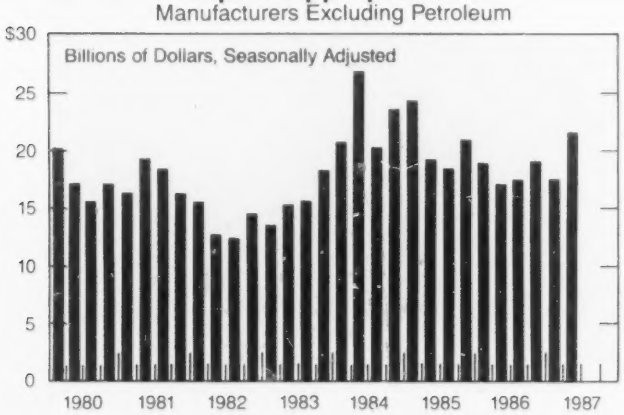
Capital Expenditures
1,000 Largest Manufacturers



Capital Appropriations
1,000 Largest Manufacturers



Capital Appropriations
Manufacturers Excluding Petroleum



Source: The Conference Board

Overview

Even though expenditures for the first half of this year are 8% below the first half of 1986, capital spending by manufacturers will rise by 5%-5.5% (3%-3.5% adjusting for inflation) over last year's level, according to our forecast. Appropriations are expected to increase 15 percent. This translates into appropriations of $101 billion and expenditures of $99 billion.

In last quarter's report, we said appropriations were not growing fast enough to support a healthy level of growth in spending this year. But the strong 22% increase in appropriations in the second quarter points to a more optimistic outcome. If appropriations continue on this growth path in the third and fourth quarters, they could lay the foundation for a 5%-6% increase in 1988 spending.

The Conference Board's second quarter Capital Investment and Appropriations survey of the 1,000 largest manufacturers confirms what we anticipated for almost a year—the manufacturing sector has finally gotten back on its feet. Almost all of the major indicators for the sector signal strength. One of the most encouraging signs is the recent growth in manufacturing employment, which suggests that manufacturers are confident the recent pickup in activity will continue.

The results of this survey and the high utilization rates in some industries suggest that capital spending may in fact be a major engine of growth for the U.S. economy in the final two quarters of this year and may sustain overall economic growth well into 1988.

Spending Outlook

We now expect capital spending by manufacturers to rise by 5%-5.5% in 1987 (3%-3.5% adjusting for inflation), with the fourth quarter stronger than the third. In January, we predicted a spending increase of 3.5%-4% in 1987, but due to some revival in oil and stronger industrial growth, we have raised our estimate 1.5 percentage points.

The projected 5%-5.5% rise in capital spending is supported by the increase in appropriations—second-quarter appropriations are 31% higher than a year ago—the increase in the closing backlog, and the survey respondents' own bullish expectations. In addition, manufacturing capacity utilization rates, as reported by the Federal Reserve Board, are higher than they have been in three years and almost a full percentage point above the 1967-86 average.

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High-Tech Equipment Still an Important Investment

Last July and August, 59 companies reported that they have intensified their investment increases in numerically and computer-controlled equipment over the period from 1980 to 1986. (Assets of these 59 companies comprise 7% of the combined assets of the nation's 1,000 largest manufacturers). Over that period, these companies boosted their combined spending on this type of high-tech machinery, the backbone of modern manufacturing processes, by 127%, or at a 14.7% average annual rate. Moreover, the 59 firms plan to raise their 1987 spending on such equipment by 43%; 58% of the planned investment falls under the heading of computer-integrated manufacturing (CIM), a strategy designed to increase the flexibility of production processes.

For more than two years, The Conference Board's Capital Investment and Appropriations survey has found that the nation's 1,000 largest manufacturers have been targeting their spending plans to enhance efficiency, mostly in response to domestic and international competition. Since 1985, more than half of the 1,000 companies covered in the survey have been spending their investment money for nonexpansionary purposes rather than to increase capacity.

However, reports by 59 companies —although not necessarily representative of all U.S. manufacturers— suggest that many U.S. firms have also been responding to changing market conditions. Computer and numerically controlled equipment has already become an important part in the manufacturing strategy of the 59 responding companies, averaging 13% of their planned investment outlays in 1987. In 1980, just 42% of this type of equipment was intended for a CIM strategy in the 59 companies combined; in 1986, that figure jumped to 59 percent.

Gerd-Ulf Krueger
Associate Economist
Economic Analysis Program

Survey respondents revised their own 1987 spending expectations from the 11% increase reported last quarter to a more achievable 6.5% rise. This revision should not be viewed as a retrenchment, but as setting a more realistic time horizon for companies' spending programs. The same holds for the change in expectations regarding 1987 appropriations; respondents downgraded the expected increase from 32% to 25% in the second-quarter survey.

Much of the increased spending will be on equipment rather than plant. In fact, 81% of this year's appropriations have been earmarked for equipment, compared with 76% just two years ago. So far this year, appropriations for structures have increased 20% over the first half of 1986. This reflects primarily the large capacity additions anticipated in some of the nondurable goods industries now operating well above their historical utilization rates. This means that, after three years of decline, spending on industrial structures should increase next year.

The keys to capital spending this year and next may lie in the petroleum industry and in the capacity constraints that many other industries are rapidly approproaching.

Since the price of domestic oil stabilized at more than $18 a barrel this year, several major oil companies have increased their 1987 spending plans. Because of the oil industry's improving investment outlook, capital outlays by manufacturers in the second-half of 1987 are expected to be 25% above the first-half—which would make for a 5.5% spending increase for the year as a whole. If oil prices turn south again, however, the industry could well depress the aggregate spending totals, as it did last year.

With 10 of the nation's 17 major industry groups operating above their historical utilization rates, the possibility of capacity constraints is rapidly approaching. The question that has haunted economists and policy makers for some time now is, in the words of The Conference Board's Albert Sommers, "How much of the available capacity can be utilized in today's cost environment?" If manufacturing production continues to grow at its current 4.6% annual rate, the country's industrial sector may have no choice but to increase its capital spending for the next several quarters.

Appropriations Outlook

The outlook for appropriations is even stronger than for spending—they are forecast to rise by 15% this year, reaching $101 billion. This would lay the foundation for next year's projected increase of 5-6 percent.

Data support our expectations of 15% growth in appropriations for 1987:

- Capacity utilization rates are now at their highest level in three years.
- Factory orders for the first half of this year are 5% above the same period last year.
- The backlog of unfilled factory orders, now 3% higher than in June 1986, will continue to exert pressure on utilization rates, leading to efforts to expand capacity.
- Exports of manufactured goods rose 20% (at an annualized rate) in the second quarter, marking the third quarterly advance.

Exports Contributing to Pickup in Spending

Much of the revival in manufacturing can be attributed to increases in the exports of manufactured goods, which according to the Commerce Department, have grown for three consecutive quarters. However, such increases do not span all subsectors. Only 44% of those surveyed reported that their exports have risen since last year. Of those reporting higher exports, 61% reported that the fall in the dollar was at least partially responsible. Over half of the responding companies in electrical machinery, instruments and photographic equipment, paper, chemicals, and nonferrous metals reported that their exports increased. Except for instruments and photographic equipment, industries reporting higher exports are, by and large, the same as those planning to increase their 1987 capital spending.

Industry Detail

The overall investment picture is better than last year, but some soft spots remain. Thirteen of the country's 17 major industry groups are forecast to increase their spending in 1987. Only motor vehicles, fabricated metals, instruments and photographic equipment, and rubber are expected to lower their 1987 outlays. Below is a run down of those industries expected to have the most influence on this year's total spending.

After falling less than 1% last year, **the durable goods sector is expected to increase its 1987 capital expenditures by a meager 1.2 percent**. But, at $49.7 billion, expenditures by this sector would be at an all-time high. The sector is also forecast to increase appropriations by 16% in 1987, which suggests that its 1988 spending could set a new record. The industries contributing to this favorable outlook include iron and steel, nonferrous metals, and other durable goods.

Operating at extremely low utilization rates for several years, steel producers have reduced their capacity significantly. Since 1985, an average of 42% of this industry's respondents reported that their investment programs would lead to a reduction in capacity. As a result, capacity utilization has climbed from a low of 60% in the second quarter of 1986 to 73.4% in August of this year. This increase in utilization combined with the continued pressure from foreign producers and renewed investment by a major steel producer supports our forecast for 30% growth in capital outlays for this industry in 1987.

The nonferrous metals industry is also expected to increase its 1987 capital outlays substantially. Expenditures are expected to rise by 19.5% to $1.9 billion, the highest in five years. The bulk of the increase will be by the larger aluminum manufactuers, who, like steel producers, will concentrate their expenditures on replacement and modernization.

The "other durable goods" category, primarily lumber and forest products, is expected to boost its 1987 spending by 60 percent. These industries, like many in the nondurable goods sector, are operating well above their 1967-86 average capacity utilization rates and, therefore, are under pressure to increase capacity. In fact, 94% of this industry's respondents reported that they will invest in programs to expand capacity—the highest percentage of respondents of any industry group.

After three years of impressive growth, *capital outlays by the motor vehicle industry are expected to drop by 19%, to $10.5 billion*. This industry, already saddled by 70 days of inventory, is now operating at only 61.6% of capacity. As a result, its appropriations in the first half of 1987 are 73% below the 1985 level and are expected to end the year 6.5% below the 1986 level.

The driving force behind this year's projection for a 5%-5.5% rise in overall spending by industry, is the nondurable goods sector. Expenditures by this sector are anticipated to increase by 10.3% over the 1986 level. Last year, spending dropped 10.6%, primarily as a result of the 35% decline in outlays by the petroleum industry. However, *spending by the petroleum industry is likely to rise 6% this year*, mainly due to the stabilization of oil prices in the $18-$20 a barrel range.

Other industries helping to boost spending in the nondurable goods sector are food and beverages, textiles, and paper. Paper and textile mills are operating well above their 20-year average capacity utilization rates. In addition, both industries increased their profits last year. In 1987 outlays by paper producers are expected to rise 31% over their 1986 level, with 65% of repondents reporting that their investments will lead to an expansion of capacity.

The textile industry is forecast to increase capital spending by 48% this year, with 70% of respondents reporting that their spending programs will continue to be aimed at modernization and efficiency improvements. Should a protectionist textile bill be enacted, these producers might boost their capital budgets even further in order to expand capacity.

Food and beverage producers are projected to increase their 1987 investment outlays by 22 percent. The bulk (75%) of the spending will be aimed at expanding capacity.

Inflation Having Little Impact on Investment

Increases in the actual and expected inflation rate generally exert downward pressure on investment, as the costs of funding and of maintaining ongoing projects rise and uncertainty about future costs and prices intensifies. Both effects pose substantial obstacles to long-term strategic planning, but have not significantly depressed capital spending so far this year.

Ninety-seven percent of surveyed companies reported that the rise in interest rates and inflation, as well as inflationary fears in the first half of this year, did not have any impact on their spending programs. This may partially be explained by the fact that over 96% of them use internally generated funds to finance their capital spending.

Capital Investment and Appropriations Survey; Second Quarter Results

Expenditures Rebound

Making up some of the ground lost in the first quarter, capital **spending by the nation's 1,000 largest manufacturers increased by 10% in the second quarter, to $22.9 billion.** (Capital spending, excluding the petroleum industry, increased 12% to $19.9 billion.) The April-June advance was widespread; eleven of the 17 major industry groups increased their outlays.

As in the first quarter, second-quarter spending was strongest in the nondurable goods sector, which increased its outlays by 20 percent. The food & beverage, chemical, and paper industries provided most of the sector's thrust. Only petroleum and the "other nondurable goods" category reflected lower second-quarter spending. The durable goods sector, on the other hand, recorded a mere 1.5% increase, with spending by electrical machinery producers offsetting a 26% second-quarter drop in motor vehicle industry spending.

Appropriations Heading in Right Direction

After declining in the first quarter, capital **appropriations for future spending on new plant and equipment by the nation's 1,000 largest manufacturers jumped 22% in the second quarter.** At $26.2 billion, appropriations reached their highest level since the fourth quarter of 1985. Capital appropriations, excluding the petroleum industry, also increased 22%, to $21.4 billion.

Capital Spending for Plant & Equipment (Millions of dollars, seasonally adjusted)

	I-87r	II-87p	%Ch
ALL MANUFACTURING			
newly approved	21,441	26,235	22.4%
capital expenditures	20,801	22,897	10.1%
closing backlog	69,171	71,873	3.9%
DURABLE GOODS			
newly approved	9,746	13,232	35.8%
capital expenditures	11,124	11,288	1.5%
closing backlog	26,190	27,784	6.1%
NONDURABLE GOODS			
newly approved	11,695	13,003	11.2%
capital expenditures	9,677	11,609	20.0%
closing backlog	42,981	44,089	2.6%

Source: The Conference Board's Capital Investment and Appropriations Survey

Highlights

- Capital spending increased by 10.1% in the second quarter of 1987; a 5%-5.5% rise is forecast for the year as a whole.
- Capital appropriations rose 22.4% in the second quarter to their highest level in one-and-a-half years; 1987 appropriations are forecast to increase 15% over the 1986 level.
- The closing backlog of unspent appropriations increased $2.7 billion, its first rise since the second quarter of 1985.
- Still optimistic, survey respondents project a 6.5% increase in expenditures and a 25% increase in appropriations for 1987.
- Ninety-seven percent of companies surveyed reported that the rise in interest rates and inflation did not have any impact on their spending programs.
- Only 44% of surveyed companies reported increases in exports for the first-half of 1987.

So far this year, appropriations are 10% above the first half of last year. This is consistent with the increasingly optimistic outlook held by the manufacturing sector, the steadily increasing rate of factory orders, and the three consecutive quarterly increases in exports of manufactured goods.

In contrast to actual spending, second-quarter appropriations were stronger in the durable goods sector (+36%) than in the nondurable goods sector (+11%)—which may signal a reversal in spending patterns next year.

Eleven industries increased their appropriations in the second quarter. The biggest gains were in electrical machinery, nonelectrical machinery, fabricated metals, and other durable goods. By contrast, iron and steel, textiles, and rubber all decreased their second-quarter appropriations by more than 50 percent. The decline in appropriations in iron and steel and textiles is not expected to continue, however; both industries are forecast to increase their overall 1987 appropriations by more than 15%, suggesting spending increases next year.

Closing Backlog Points to Stronger Near-term Spending

With appropriations outpacing expenditures for the second straight quarter, **the closing backlog of unspent appropriations grew by $2.7 billion.** Now at $71.9 billion, the backlog has stopped its 24 month fall. This change is a good sign as an increase in the closing backlog usually suggests improvement in the spending outlook.

Walter R. Arvin
September 23, 1987

The Conference Board

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ATTENTION PC USERS: All data from the survey plus extensive government statistics are available on cost-effective diskettes, in LOTUS and other formats. Contact Linette Waters: 800-US-BOARD; in NYC, (212) 759-0900.

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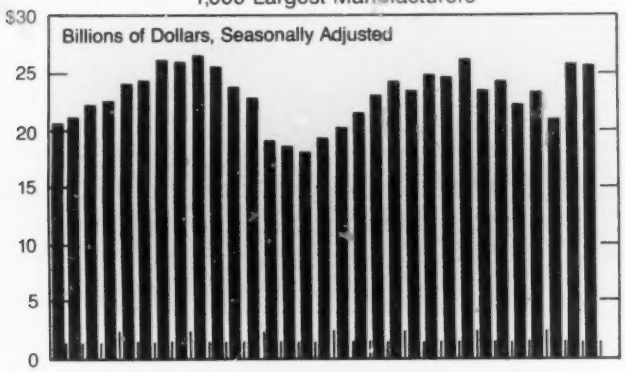
Economic and Business Environment Program

Manufacturing Investment Outlook

A Quarterly Report from The Conference Board — Winter 1988

Capital Expenditures
1,000 Largest Manufacturers



Capital Appropriations
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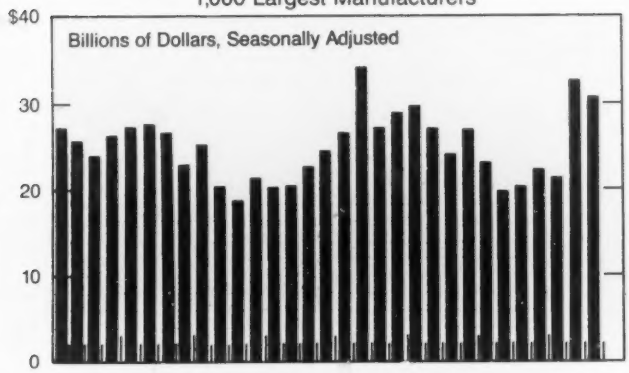
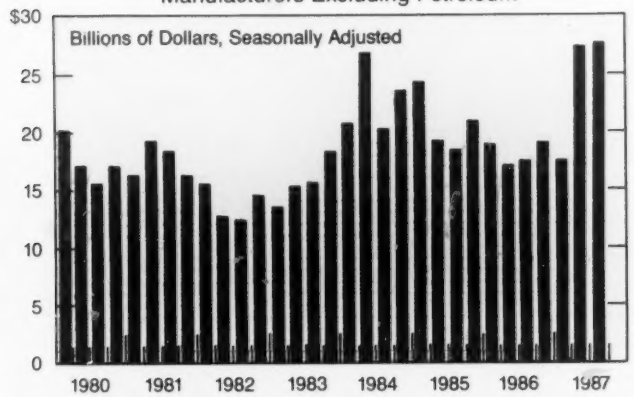


Capital Appropriations
Manufacturers Excluding Petroleum



Source: The Conference Board

MANUFACTURING INVESTMENT OUTLOOK OVERVIEW

Although the U.S. economy is operating at its highest level of capacity use in three years, the investment climate appears to be weakening, according to The Conference Board's survey of Capital Appropriations and Expenditures for the third quarter of 1987.

The October crash appears to be behind this contradiction. Investment is a discretionary function in a firm's budget: It can be delayed or deferred if external funds are hard to come by or if the economic outlook sours. In the wake of the stock market crash, such problems are now more likely to arise.

There is a widely shared expectation that economic growth in 1988 will be sharply lower than in 1987. For individual firms this could translate into less advantageous terms for external funding. And sluggish growth means less incentive and a reduction in the cash flow available to finance new investment.

Accordingly, we expect total business plant and equipment spending (adjusted for inflation) to be 2 1/2% lower in the fourth quarter of 1988 than in the fourth quarter of 1987. And since the investment expansion in recent years has been largely focused on equipment, if the forecast is on target, future spending cuts will jeopardize investment plans in that sector more than those targeted for structures.

AN ALTERNATIVE SCENARIO: THE CASE FOR STRONGER INVESTMENT

At the same time, a case can be made that investment will outperform the economy in 1988. Although U.S. manufacturers have lost some market share, and some markets, to foreign competitors, they have responded to the competitive pressure. Firms have minimized the frequency and degree of price hikes, in no small part by limiting wage gains (both through downsizing the workforce and through wage bargaining).

Another part of U.S. industry's strategy to hone a competitive advantage has been to modernize facilities and to develop better products. No matter how strong or weak the U.S. economy is in 1988, the drive to enhance competitiveness will continue.

An additional positive factor in the outlook for capital goods spending is the high degree of current resource usage. Many industries no longer have a reserve of usable but idle productive capacity. This is especially true in some nondurable goods industries like paper and chemicals. Therefore, investment spending may increase as firms attempt to expand their productive capacity.

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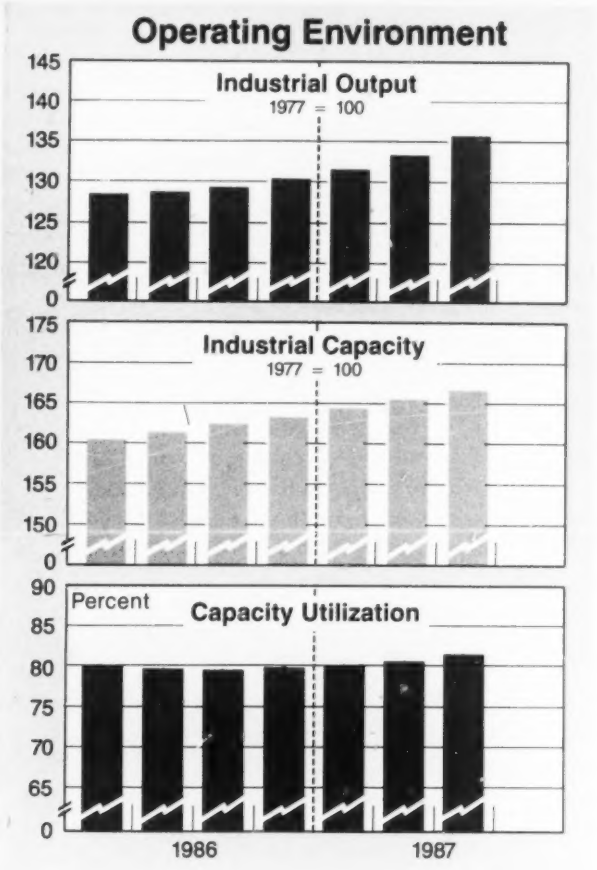

Sources: Federal Reserve Board ; The Conference Board

International markets are another area where heavy industry can look for further increases in demand. There has been recent success in this area. For example, exports of electric and nonelectric machinery were 15% higher this summer than a year earlier. The dollar has fallen still lower since then, probably helping to sharpen the competitive edge U.S. producers have begun to exploit. That success should limit capital-spending budget cuts, if domestic economic growth slows in 1988.

A TECHNICAL NOTE ON THE STATISTICS

Changing the asset base. The Capital Appropriations and Expenditures data are based on a quarterly survey of the nation's 1,000 largest manufacturers. (The actual survey responses typically represent between 200 and 400 companies and are adjusted to reflect what the totals would have been if all companies had reported. This is done by weighting the actual responses according to the assets of the survey respondents relative to the assets of all 1,000 companies).

Periodically, it becomes necessary to update the asset data of our survey respondents. In the recent revision of the second quarter numbers, some degree of discontinuity was unavoidable. On the basis of new information, the asset data that had been used were too low. That implies the appropriations and expenditures derived from the survey were underadjusted. On the basis of the adjusted asset data—i.e., taking the revised asset values into account—total capital appropriations by the 1,000 largest manufacturers, which were previously reported to have increased by 22% in the second quarter over the first, now appear about 50% higher. This is not to be taken as a 50% jump, since the higher increase is due solely to asset revaluation. It can be presumed that the actual increase was in the neighborhood of 25%.

Adequacy of Productive Capacity

By the third quarter of 1987, some manufacturers became concerned about their ability to continue to produce fast enough to satisfy demand. Investment increases, sustained (albeit moderating) consumer-led expansion, some rise in exports, and expectations that business would continue to expand led to speculation that productive capacity might begin to be stretched to the limit.

The survey showed that 9% of all respondents said their capacity had become inadequate by the third quarter of 1987, compared with 6% in the first quarter. But 13% of the durable goods manufacturers said capacity was inadequate in the third quarter, compared with 6% in the first quarter survey.

The Conference Board survey also showed that most of the investment in the third quarter was intended to expand productive capacity. About 60% of the survey respondents said that spending was intended to expand facilities, compared with only 44% in the second quarter. Interestingly, the change was more reflective of nondurable goods manufacturers: 63% reported spending for expansion in the third quarter versus only 43% in the second quarter. Only 38% of durable goods producers said that their third quarter outlays were for expansion versus 45% in the second quarter.

Perhaps one reason why nondurable goods manufacturers stepped up expansion plans was the expectation that financing would be almost exclusively internal. They reported that 99.6% of investment expenditures would be generated internally in the third quarter, compared with 90% in the first quarter. Conversely, durable goods producers expected to fund 81% internally, compared with 93% in the first quarter.

The heavy emphasis on internal funding probably also reflects some concern about the environment for raising funds in the financial markets. If the rise in sales volume slows in 1988 as is expected, however, the availability of internal funds could prove insufficient.

THE STOCK MARKET DID WHAT?

It should probably come under the category of Famous Last Words but The Conference Board's survey results taken before the crash suggest that corporate planners were largely unconcerned about future stock values at that time. When asked to list which external factors might complicate the capital-spending program for 1988, only one respondent cited the uncertainty of stock values. Overall, stock market instability was most frequently cited as the least worrisome of the listed factors.

What did concern corporate planners? Maintaining labor productivity growth was the problem most frequently cited by the survey respondents. In addition to attempts to upgrade facilities with state-of-the-art technology, planners were concerned about employee training and management development. The second most frequently cited concern was how fast the economy would grow.

While the state of the bull market in stocks was the most frequently cited "nonproblem," corporate planners also appeared unconcerned that their plans would be upset by fluctuations in the exchange rate of the dollar.

CURRENT INDUSTRIAL CONDITIONS

Conditions have been almost uniformly bright over the last 12 months (ending in November, 1987). The direction is apparently changing now, perhaps substantially so.

- Industrial Production: Consumer Durable Goods output was 4.9% higher in November than 12 months ago. Producers equipment, except defense-related, was 7.7% higher. Total industrial production is expected to be only 0.9% higher 12 months from now.
- Capacity Utilization for durable manufacturing industries was at 79.9% in November 1987, compared with 77% one year earlier. It was at 85.1% for nondurable industries in November 1987, compared with 83.5% one year earlier.
- New orders for durable goods, except defense-related, were 9.6% higher in October 1987 than one year ago.
- Inventory, except cars at the retail level, was 4.1% higher in October 1987 than one year ago.
- Exports of manufactured goods, except aircraft and parts, were 30% higher in October 1987 than one year ago.
- Prices for raw metals were 38.5% higher in November 1987 than one year ago.
- Manufacturing productivity was 3.8% higher in the third quarter of 1987 than one year ago; hourly compensation was only 1.3% higher; thus, unit labor costs fell 2.4%.
- Manufacturing after-tax profits were a staggering 80% higher in the third quarter of 1987 than one year ago. Profit as a percent of sales recovered to 5.6%, from 3.4% one year ago (relative to equity, it recovered to 14.5%, from 8.4% one year ago). Total business after-tax profit is expected to about 10% one year from now.

THIRD-QUARTER SURVEY RESULTS

Rising investment seemed to have been losing some steam this past summer. The Conference Board's survey of the nation's 1,000 largest manufacturers showed some declines in appropriations and flatness in capital spending, although the backlog of approved but unspent appropriations did rise.

Total capital appropriations fell 4.3% in the third quarter of 1987, to $30.9 billion. That decline was heavily influenced by a drop in the petroleum industry. Appropriations, excluding petroleum, actually rose 1.3 percent. Appropriations in durable goods industries were largely unchanged from the second-quarter level. Nondurable goods industries, except petroleum, increased their appropriations by 3.6 percent. The push on productive capacity is greater in the nondurable sector, which is one reason why its investment programs appear more bullish. (Nondurable exports have also performed better than durables, so far. This may be another factor in the stronger capital investment plans in this sector).

Total capital spending on plant and equipment fell 0.4% in the third quarter, to $25.8 billion. Spending by durable goods industries was 0.4% lower. But spending by nondurable goods firms, including petroleum companies, was 0.5% higher; excluding petroleum, spending was actually 0.7% higher.

One of the interesting results of the third-quarter survey is that the level of appropriations, while lower in the third quarter than in the second quarter, remains somewhat higher than capital spending in the third quarter. That arithmetic results in a rise in the closing backlogs or in the "inventory" of approved projects that have yet to be implemented. The important focus here is that the rise in the backlog this year will probably result either in higher capital spending next year or in unusually large cancellations of previously approved programs, depending on overall economic conditions and on the financial climate.

INDUSTRY DETAIL

For the third quarter of 1987, half of the industries surveyed showed some momentum in their investment programs; half showed declines. Eight of the 17 major U.S. industrial groups raised their capital appropriations and expenditures and nine cut back. Further complicating the issue, the degree of increase or decrease was sometimes startling.

Iron and steel firms are among the "smokestack" industries that have undergone severe and prolonged retrenchment over the past few years. Nevertheless, producers in this field almost tripled their appropriations in the third quarter, relative to the second quarter. Rubber and fabricated metals companies also raised the level of appropriations in the third quarter, relative to the second-quarter level. quarter. These industries also represent that part of the manufacturing base that has faced hard times in the recent past. Having gone through the exercise, and no longer being shut out of export markets by the "superdollar," these industries may be putting quite aggressive and long-range plans into place.

At the same time, the nonelectric machinery industry cut back sharply on third-quarter spending plans. The irony here, however, is that spending also fell and the backlog of unspent appropriations, therefore, actually rose. Which is the true indicator, a fall in appropriations or a rise in the backlog? For now, the answer is unclear.

The situation is equally unclear with respect to conditions in the paper industry. It is one area where the reported capacity utilization is relatively high and yet new appropriations fell sharply in the third quarter. That may reflect a pause after

a string of quarterly increases in appropriations. Despite sharply lower appropriations in the third quarter, the backlog of unspent appropriations was essentially unchanged.

Finally, the petroleum industry suffered severely in the wake of the oil price collapse in 1985. Earlier this year, it was thought that oil prices would stabilize in the $18-$20 a barrel range and that stabilization would lead to some recovery in the industry's capital-spending programs. Instead, appropriations were scaled back in the third quarter, and the backlog of unspent appropriations also declined. Moreover, in addition to the financial market turmoil, oil prices seem to be once again headed lower though more slowly and to a more limited extent than in 1985. That certainly doesn't give corporate planners in this industry the ammunition to push for stepping up new investment programs.

SUMMARY

The outlook for investment is never entirely cloudy or clear but the current business environment, together with evidence on recent investment trends, is more confused than usual. A strong case can be made that investment is likely to slow, perhaps even subside, over the next year or so. That seems to be the most probable direction. However, a case can be made for continued increases in investment, and that view has more than a few supporters. Last thought: The business environment changed dramatically and abruptly on one single day in October. What happened once, can happen again.

Ken Goldstein
December 18, 1987

TABLE 1
SEASONALLY ADJUSTED DATA IN MILLIONS OF CURRENT DOLLARS

	CURRENT DOLLARS						PERCENT CHANGE OVER PRIOR QUARTER		
	II-86	III-86	IV-86	I-87	II-87(r)	III-87(p)	I-87	II-87	III-87
ALL MANUFACTURING									
Opening backlog	92,216	85,769	80,713	69,720	69,171	74,635			
Newly approved	19,991	20,203	22,097	21,441	32,257	30,872	- 3.0%	50.4%	-4.3%
Canceled	2,129	2,807	9,791	1,189	860	2,281			
Capital expenditure	24,309	22,452	23,299	20,801	25,933	25,817	-10.7%	24.7%	-0.4%
Closing backlog	85,769	80,713	69,720	69,171	74,635	77,409	- 0.8%	7.9%	3.7%
MANUFACTURING EX. PETROLEUM									
Opening backlog	67,018	61,289	56,914	53,015	51,468	55,369			
Newly approved	17,016	17,649	19,016	17,513	27,227	27,592	- 7.9%	55.5%	1.3%
Canceled	1,922	2,652	3,008	1,354	540	1,121			
Capital expenditure	20,823	19,372	19,907	17,706	22,786	22,793	-11.1%	28.7%	0.0%
Closing backlog	61,289	56,914	53,015	51,468	55,369	59,047	- 2.9%	7.6%	6.6%
DURABLE GOODS									
Opening backlog	40,211	36,387	32,401	28,261	26,190	28,498			
Newly approved	9,578	10,051	10,807	9,746	16,515	16,496	- 9.8%	69.5%	-0.1%
Canceled	1,522	1,851	2,032	693	201	618			
Capital expenditure	11,880	12,186	12,915	11,124	14,006	13,948	-13.9%	25.9%	-0.4%
Closing backlog	36,387	32,401	28,261	26,190	28,498	30,428	- 7.3%	8.8%	6.8%
NONDURABLE GOODS									
Opening backlog	52,005	49,382	48,312	41,459	42,981	46,137			
Newly approved	10,413	10,152	11,290	11,695	15,742	14,376	-3.6%	34.6%	-8.7%
Canceled	607	956	7,759	496	659	1,663			
Capital expenditure	12,429	10,266	10,384	9,677	11,927	11,869	- 6.8%	23.3%	-0.5%
Closing backlog	49,382	48,312	41,459	42,981	46,137	46,981	3.7%	7.3%	1.8%

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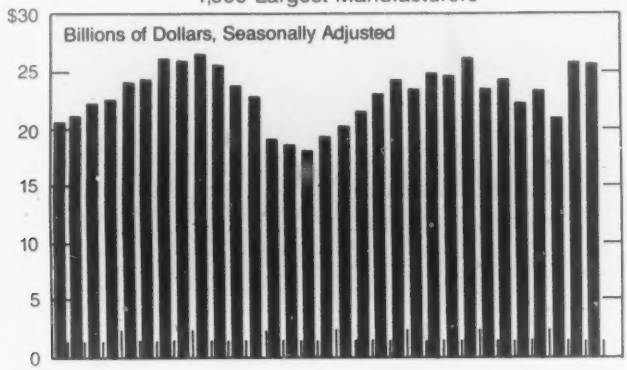
Economic and Business Environment Program

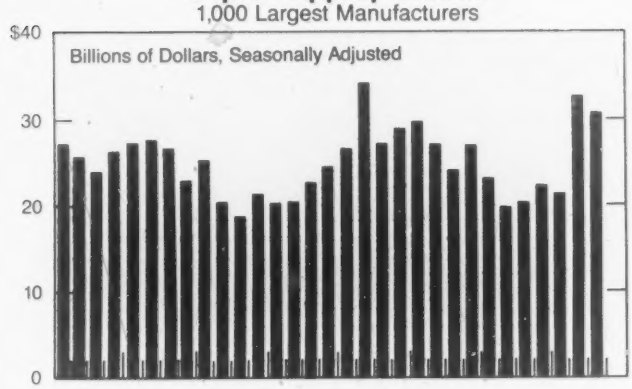
Manufacturing Investment Outlook

A Quarterly Report from The Conference Board — Winter 1988

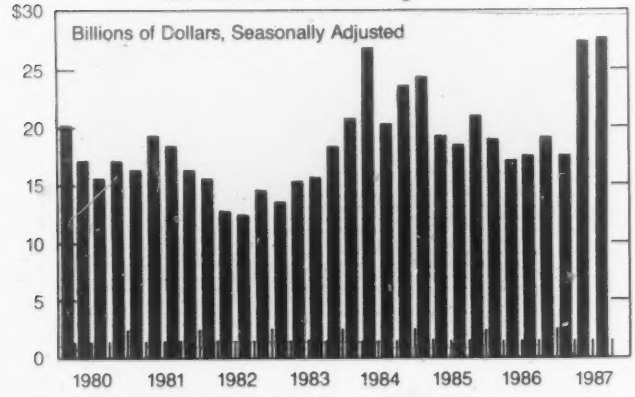
Capital Expenditures
1,000 Largest Manufacturers



Capital Appropriations
1,000 Largest Manufacturers



Capital Appropriations
Manufacturers Excluding Petroleum



Source: The Conference Board

MANUFACTURING INVESTMENT OUTLOOK OVERVIEW

Although the U.S. economy is operating at its highest level of capacity use in three years, the investment climate appears to be weakening, according to The Conference Board's survey of Capital Appropriations and Expenditures for the third quarter of 1987.

The October crash appears to be behind this contradiction. Investment is a discretionary function in a firm's budget: It can be delayed or deferred if external funds are hard to come by or if the economic outlook sours. In the wake of the stock market crash, such problems are now more likely to arise.

There is a widely shared expectation that economic growth in 1988 will be sharply lower than in 1987. For individual firms this could translate into less advantageous terms for external funding. And sluggish growth means less incentive and a reduction in the cash flow available to finance new investment.

Accordingly, we expect total business plant and equipment spending (adjusted for inflation) to be 2 1/2% lower in the fourth quarter of 1988 than in the fourth quarter of 1987. And since the investment expansion in recent years has been largely focused on equipment, if the forecast is on target, future spending cuts will jeopardize investment plans in that sector more than those targeted for structures.

AN ALTERNATIVE SCENARIO: THE CASE FOR STRONGER INVESTMENT

At the same time, a case can be made that investment will outperform the economy in 1988. Although U.S. manufacturers have lost some market share, and some markets, to foreign competitors, they have responded to the competitive pressure. Firms have minimized the frequency and degree of price hikes, in no small part by limiting wage gains (both through downsizing the workforce and through wage bargaining).

Another part of U.S. industry's strategy to hone a competitive advantage has been to modernize facilities and to develop better products. No matter how strong or weak the U.S. economy is in 1988, the drive to enhance competitiveness will continue.

An additional positive factor in the outlook for capital goods spending is the high degree of current resource usage. Many industries no longer have a reserve of usable but idle productive capacity. This is especially true in some nondurable goods industries like paper and chemicals. Therefore, investment spending may increase as firms attempt to expand their productive capacity.

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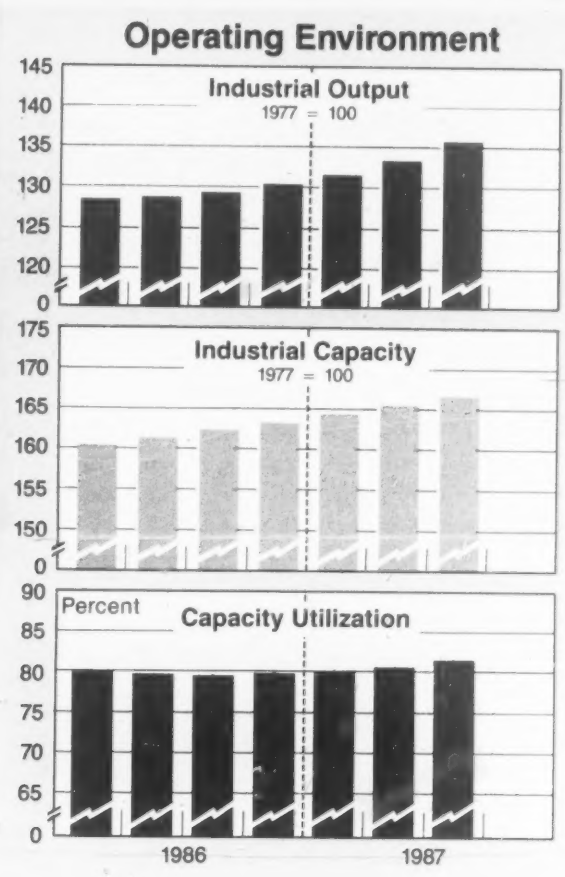

Sources: Federal Reserve Board; The Conference Board

International markets are another area where heavy industry can look for further increases in demand. There has been recent success in this area. For example, exports of electric and nonelectric machinery were 15% higher this summer than a year earlier. The dollar has fallen still lower since then, probably helping to sharpen the competitive edge U.S. producers have begun to exploit. That success should limit capital-spending budget cuts, if domestic economic growth slows in 1988.

A TECHNICAL NOTE ON THE STATISTICS

Changing the asset base. The Capital Appropriations and Expenditures data are based on a quarterly survey of the nation's 1,000 largest manufacturers. (The actual survey responses typically represent between 200 and 400 companies and are adjusted to reflect what the totals would have been if all companies had reported. This is done by weighting the actual responses according to the assets of the survey respondents relative to the assets of all 1,000 companies).

Periodically, it becomes necessary to update the asset data of our survey respondents. In the recent revision of the second quarter numbers, some degree of discontinuity was unavoidable. On the basis of new information, the asset data that had been used were too low. That implies the appropriations and expenditures derived from the survey were underadjusted. On the basis of the adjusted asset data—i.e., taking the revised asset values into account—total capital appropriations by the 1,000 largest manufacturers, which were previously reported to have increased by 22% in the second quarter over the first, now appear about 50% higher. This is not to be taken as a 50% jump, since the higher increase is due solely to asset revaluation. It can be presumed that the actual increase was in the neighborhood of 25%.

Adequacy of Productive Capacity

By the third quarter of 1987, some manufacturers became concerned about their ability to continue to produce fast enough to satisfy demand. Investment increases, sustained (albeit moderating) consumer-led expansion, some rise in exports, and expectations that business would continue to expand led to speculation that productive capacity might begin to be stretched to the limit.

The survey showed that 9% of all respondents said their capacity had become inadequate by the third quarter of 1987, compared with 6% in the first quarter. But 13% of the durable goods manufacturers said capacity was inadequate in the third quarter, compared with 6% in the first quarter survey.

The Conference Board survey also showed that most of the investment in the third quarter was intended to expand productive capacity. About 60% of the survey respondents said that spending was intended to expand facilities, compared with only 44% in the second quarter. Interestingly, the change was more reflective of nondurable goods manufacturers: 63% reported spending for expansion in the third quarter versus only 43% in the second quarter. Only 38% of durable goods producers said that their third quarter outlays were for expansion versus 45% in the second quarter.

Perhaps one reason why nondurable goods manufacturers stepped up expansion plans was the expectation that financing would be almost exclusively internal. They reported that 99.6% of investment expenditures would be generated internally in the third quarter, compared with 90% in the first quarter. Conversely, durable goods producers expected to fund 81% internally, compared with 93% in the first quarter.

The heavy emphasis on internal funding probably also reflects some concern about the environment for raising funds in the financial markets. If the rise in sales volume slows in 1988 as is expected, however, the availability of internal funds could prove insufficient.

THE STOCK MARKET DID WHAT?

It should probably come under the category of Famous Last Words but The Conference Board's survey results taken before the crash suggest that corporate planners were largely unconcerned about future stock values at that time. When asked to list which external factors might complicate the capital-spending program for 1988, only one respondent cited the uncertainty of stock values. Overall, stock market instability was most frequently cited as the least worrisome of the listed factors.

What did concern corporate planners? Maintaining labor productivity growth was the problem most frequently cited by the survey respondents. In addition to attempts to upgrade facilities with state-of-the-art technology, planners were concerned about employee training and management development. The second most frequently cited concern was how fast the economy would grow.

While the state of the bull market in stocks was the most frequently cited "nonproblem," corporate planners also appeared unconcerned that their plans would be upset by fluctuations in the exchange rate of the dollar.

CURRENT INDUSTRIAL CONDITIONS

Conditions have been almost uniformly bright over the last 12 months (ending in November, 1987). The direction is apparently changing now, perhaps substantially so.

- Industrial Production: Consumer Durable Goods output was 4.9% higher in November than 12 months ago. Producers equipment, except defense-related, was 7.7% higher. Total industrial production is expected to be only 0.9% higher 12 months from now.
- Capacity Utilization for durable manufacturing industries was at 79.9% in November 1987, compared with 77% one year earlier. It was at 85.1% for nondurable industries in November 1987, compared with 83.5% one year earlier.
- New orders for durable goods, except defense-related, were 9.6% higher in October 1987 than one year ago.
- Inventory, except cars at the retail level, was 4.1% higher in October 1987 than one year ago.
- Exports of manufactured goods, except aircraft and parts, were 30% higher in October 1987 than one year ago.
- Prices for raw metals were 38.5% higher in November 1987 than one year ago.
- Manufacturing productivity was 3.8% higher in the third quarter of 1987 than one year ago; hourly compensation was only 1.3% higher; thus, unit labor costs fell 2.4%.
- Manufacturing after-tax profits were a staggering 80% higher in the third quarter of 1987 than one year ago. Profit as a percent of sales recovered to 5.6%, from 3.4% one year ago (relative to equity, it recovered to 14.5%, from 8.4% one year ago). Total business after-tax profit is expected to about 10% one year from now.

THIRD-QUARTER SURVEY RESULTS

Rising investment seemed to have been losing some steam this past summer. The Conference Board's survey of the nation's 1,000 largest manufacturers showed some declines in appropriations and flatness in capital spending, although the backlog of approved but unspent appropriations did rise.

Total capital appropriations fell 4.3% in the third quarter of 1987, to $30.9 billion. That decline was heavily influenced by a drop in the petroleum industry. Appropriations, excluding petroleum, actually rose 1.3 percent. Appropriations in durable goods industries were largely unchanged from the second-quarter level. Nondurable goods industries, except petroleum, increased their appropriations by 3.6 percent. The push on productive capacity is greater in the nondurable sector, which is one reason why its investment programs appear more bullish. (Nondurable exports have also performed better than durables, so far. This may be another factor in the stronger capital investment plans in this sector).

Total capital spending on plant and equipment fell 0.4% in the third quarter, to $25.8 billion. Spending by durable goods industries was 0.4% lower. But spending by nondurable goods firms, including petroleum companies, was 0.5% higher; excluding petroleum, spending was actually 0.7% higher.

One of the interesting results of the third-quarter survey is that the level of appropriations, while lower in the third quarter than in the second quarter, remains somewhat higher than capital spending in the third quarter. That arithmetic results in a rise in the closing backlogs or in the "inventory" of approved projects that have yet to be implemented. The important focus here is that the rise in the backlog this year will probably result either in higher capital spending next year or in unusually large cancellations of previously approved programs, depending on overall economic conditions and on the financial climate.

INDUSTRY DETAIL

For the third quarter of 1987, half of the industries surveyed showed some momentum in their investment programs; half showed declines. Eight of the 17 major U.S. industrial groups raised their capital appropriations and expenditures and nine cut back. Further complicating the issue, the degree of increase or decrease was sometimes startling.

Iron and steel firms are among the "smokestack" industries that have undergone severe and prolonged retrenchment over the past few years. Nevertheless, producers in this field almost tripled their appropriations in the third quarter, relative to the second quarter. Rubber and fabricated metals companies also raised the level of appropriations in the third quarter, relative to the second-quarter level. quarter. These industries also represent that part of the manufacturing base that has faced hard times in the recent past. Having gone through the exercise, and no longer being shut out of export markets by the "superdollar," these industries may be putting quite aggressive and long-range plans into place.

At the same time, the nonelectric machinery industry cut back sharply on third-quarter spending plans. The irony here, however, is that spending also fell and the backlog of unspent appropriations, therefore, actually rose. Which is the true indicator, a fall in appropriations or a rise in the backlog? For now, the answer is unclear.

The situation is equally unclear with respect to conditions in the paper industry. It is one area where the reported capacity utilization is relatively high and yet new appropriations fell sharply in the third quarter. That may reflect a pause after

a string of quarterly increases in appropriations. Despite sharply lower appropriations in the third quarter, the backlog of unspent appropriations was essentially unchanged.

Finally, the petroleum industry suffered severely in the wake of the oil price collapse in 1985. Earlier this year, it was thought that oil prices would stabilize in the $18-$20 a barrel range and that stabilization would lead to some recovery in the industry's capital-spending programs. Instead, appropriations were scaled back in the third quarter, and the backlog of unspent appropriations also declined. Moreover, in addition to the financial market turmoil, oil prices seem to be once again headed lower though more slowly and to a more limited extent than in 1985. That certainly doesn't give corporate planners in this industry the ammunition to push for stepping up new investment programs.

SUMMARY

The outlook for investment is never entirely cloudy or clear but the current business environment, together with evidence on recent investment trends, is more confused than usual. A strong case can be made that investment is likely to slow, perhaps even subside, over the next year or so. That seems to be the most probable direction. However, a case can be made for continued increases in investment, and that view has more than a few supporters. Last thought: The business environment changed dramatically and abruptly on one single day in October. What happened once, can happen again.

Ken Goldstein
December 18, 1987

TABLE 1
SEASONALLY ADJUSTED DATA IN MILLIONS OF CURRENT DOLLARS

	CURRENT DOLLARS						PERCENT CHANGE OVER PRIOR QUARTER		
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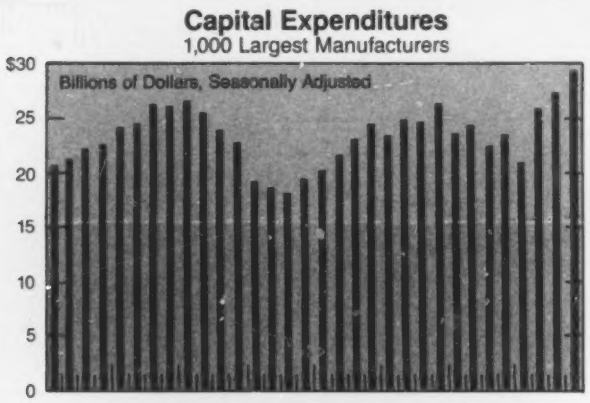
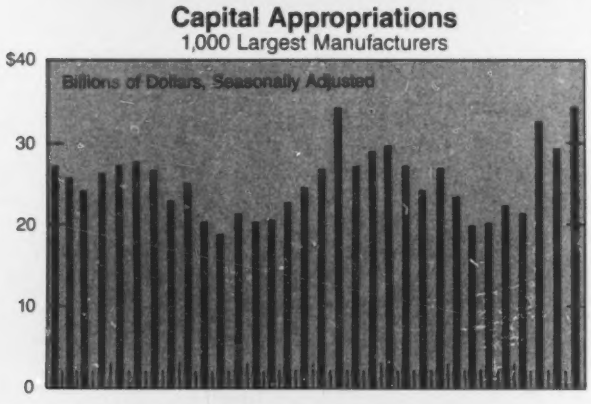
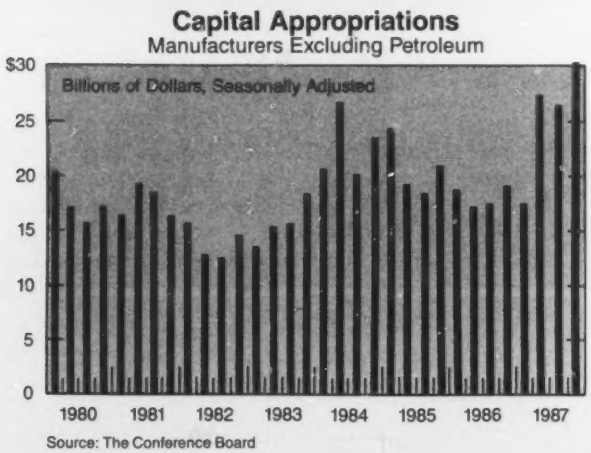
Economic and Business Environment Program

Manufacturing Investment Outlook

Volume 2, Number 1 Spring 1988







Source: The Conference Board

MANUFACTURING INVESTMENT OUTLOOK

OVERVIEW:

With the U.S. economy operating at its highest level of capacity in three years, the climate appears to be quite propitious for a rise in investment spending, notwithstanding some concern about rising interest rates. Indeed, the prospect of paying more for investment funds may be causing a speed-up in capital spending plans right now.

The Conference Board's survey of Capital Appropriations and Expenditures for the fourth quarter of 1987 shows that plant and equipment spending was rising. Moreover, the rate of approval of new spending programs increased at a faster pace than ongoing expenditure, resulting in a buildup of the backlog of approved but as yet unspent appropriations. The surveyed executives also indicated that they expect to raise their overall capital investment budgets for 1988 significantly faster than anticipated growth in GNP. All in all, the survey paints quite an optimistic picture for business investment; and the timing may prove providential.

SUMMARY OF SURVEY RESULTS

Capital expenditures by the U.S.'s 1,000 largest manufacturers rose sharply in the last half of 1987, after several quarters of sluggish growth. Total capital spending rose 7% in the fourth quarter of 1987, preceded by a 5.6% rise in the third quarter.

Capital appropriations (the approval of new spending programs) were also up quite sharply in the fourth quarter of 1987, more than reversing a significant decline in the third quarter. Total appropriations increased by a sizable 16% in the fourth quarter, after declining by a little more than 8% in the prior quarter.

That capital spending on plant and equipment rose for two straight quarters is encouraging. That it was accompanied by slightly stronger increases in appropriations is doubly promising. Taken together, the result is a 2.9% rise in the backlog of approved but as yet unspent capital projects in the fourth quarter, compared to a 0.1% decline in the third quarter.

Rising expenditure, accompanied by strong gains in appropriations, as well as a build-up (albeit limited) in the backlog of appropriations, all suggest that manufacturing investment in new plant and equipment is gaining momentum. The surveyed executives indicated that their budgets will

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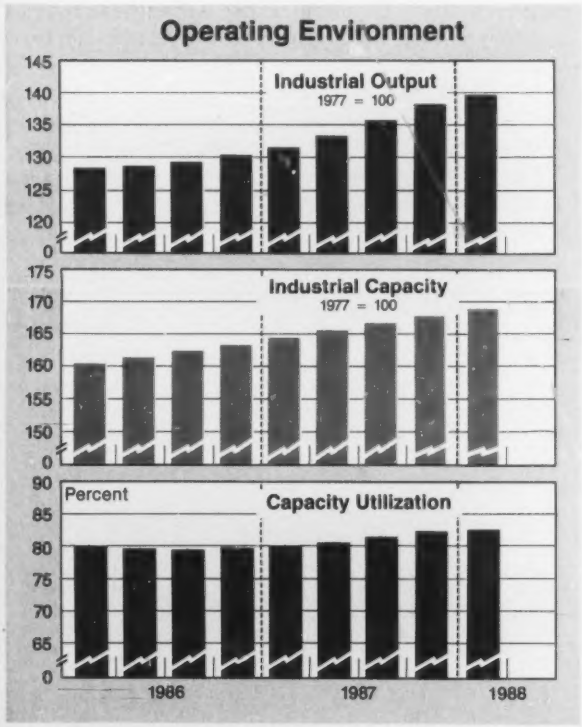
provide for expansive investment programs in 1988. Specifically, they said that their capital expenditures may be as much as 18% higher in 1988 than in 1987 and that capital appropriations may be up by as much as 12 percent. Given a consensus that nominal GNP will probably not rise by more than 6% to 6 1/2% this year, capital investment could rise twice as fast as overall economic activity or even a bit more.

A SCENARIO FOR INVESTMENT-DRIVEN GROWTH LATE IN THE BUSINESS CYCLE

The long-running, consumer-led expansion, by all accounts, is losing some steam. A pick-up in U.S. exports may take up some of the slack and keep the expansion going in 1988, however. The healthy rise in business investment indicated by the survey would also go a long way toward reducing the chance of recession this year. A careful look at the business environment suggests that the climate may be ripe for some investment-led growth.

CURRENT INDUSTRIAL CONDITIONS

Notwithstanding some pockets of weakness, industrial conditions over the last 12 months (ending in March 1988) have been fairly good. The center of strength has shifted away from production geared to domestic consumption and toward export-oriented and/or capital goods output.



Sources: Federal Reserve Board ; The Conference Board

- Industrial production: The output of consumer durables was only 1.8% higher in March than 12 months ago. Producers equipment, except defense related, was 7.4% higher. Total industrial production is expected to be 3.1% higher 12 months from now.

- Capacity utilization for durable goods industries was at 80.2% in March 1988, up from 77.9% one year earlier. Utilization in nondurable goods industries stood at 85.9% in March, compared with 83.9% one year earlier. Continued economic growth may result in production bottlenecks. According to survey results, this factor may be overcoming investor reluctance to commit additional funds at this late date in a very long expansion.

- New orders for durable goods, except defense related, rose 10.1% in February 1988, compared to one year ago.
- Inventory, except cars at the retail level, was 6.6% higher in January 1988 than one year ago. The buildup of inventory, despite strong gains in new orders, tempers what otherwise would be exceptionally good news.

- Prices of raw industrial metals were 31% higher in March 1988 than one year ago. That sharp gain is a recovery from an earlier and prolonged slump. It accompanies the surge in demand indicated by a 26% rise in new orders for primary metals over roughly the same period. It also spells higher costs for new machinery, a factor that could affect the depth and breath of capital investment.

- Exports of manufactured goods, except aircraft and parts, were up by 24% in February 1988 from one year ago.

- Manufacturing productivity was 3.4% higher in the fourth quarter of 1987 than one year earlier; hourly compensation was only 1.1% higher. Thus, unit labor costs actually declined by 2.2 percent. That decline more than offset some rise in nonlabor costs and helped keep profit margins up, a key ingredient for rising capital investment.

- Manufacturing after-tax profits were 38% higher in the fourth quarter of 1987 than one year earlier. Profit averaged 4.2 cents (on one dollar of sales) in the fourth quarter, compared with 3.3 cents one year earlier. (The profit to equity ratio was at 11.3%, compared to 8.5% one year earlier).

- Total business after-tax profit is expected to be about 15% higher in the first quarter of 1989. The pool of internal funds built up over the last two years raise expectations that 1988 will be another very profitable year.

- Total nonresidential fixed investment was 4.5% higher in the fourth quarter of 1987 than one year earlier. It is expected to rise by about 8.8% over the four quarters ending in the first quarter of 1989.

FOURTH-QUARTER SURVEY RESULTS INDUSTRY DETAIL

DURABLE GOODS' MANUFACTURING: Heretofore, the trend in capital investment by nondurable goods producers appeared stronger than in the durable goods industries. The latest survey results indicate a reversal. Indeed, one reason for the pick-up in the investment outlook is that appropriations by durable goods' producers are rising faster than expenditures.

- Total appropriations for durable goods' industries were 9.7% higher in the fourth quarter of 1987 than in the second quarter. That was a 6.3% gain for all manufacturing over the same period.

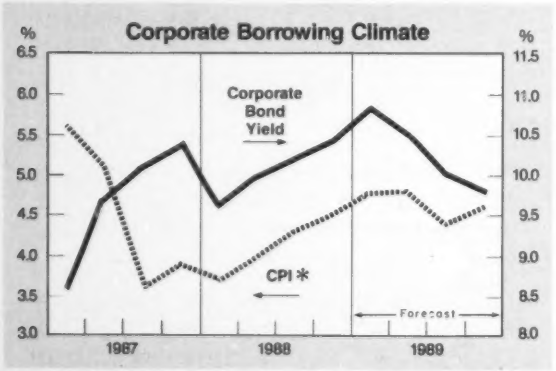
- Total expenditures by durable goods' industries were 6.5% higher in the fourth quarter of 1987 than in the second quarter, compared with a 13% gain for all manufacturing.

Given the fact that future plans to spend are rising faster than ongoing investment:

- The backlog of unspent appropriations for durable goods' industries was 20.7% higher in the fourth quarter of 1987 than in the second quarter, compared with only a 2.8% gain for all manufacturing.

Unfortunately, the outlook for individual durable goods' industries is unclear. For example, new appropriations by fabricated metals' producers were actually one and a half times higher in the fourth quarter of 1987 than in the second quarter. Conversely, appropriations in the nonferrous metals industry fell by one third over the same period. Thus, some primary metals' producers are priming the pump while others are cutting back.

Investment plans were generally on the rise among advanced-processing, durable goods' industries. Over the third and fourth quarters, appropriations rose by 30% in the electric machinery industry, even though expenditures were only 5.7% higher. That may suggest that a new round of expansion in computers and other office automation may be getting underway, following an earlier slump.



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In contrast, appropriations by the nonelectrical machinery industry were 20% lower in the fourth quarter of 1987 than in the second quarter, while expenditures were 41% lower. But even in this case, there is a resulting 20% rise in the backlog of unspent appropriations, which might indicate an upcoming reversal in the current slump in investment in this industry.

Two problem industries are moving in opposite directions. The iron and steel industry has gone through a major shake out and reorganization. Although the change is not yet complete, there are indications the industry is beginning to move ahead: Capital appropriations were 18.6% higher in the fourth quarter of 1987 than in the second quarter; expenditures were up by 13.4 percent. Finally, the backlog of unspent appropriations were 67.6% higher. These data describe an industry that is aggressively moving forward.

In contrast, the domestic motor vehicle industry faces daunting international competition, rendering a portion of productive capacity idle. There is a great deal of speculation about permanent plant closings but the industry continues to invest in facilities it expects to continue to operate. New appropriations were 60% higher in the fourth quarter of 1987 than in the second quarter. Expenditures were 58% higher. As a result, the backlog of unspent appropriations fell 18 percent. More than any other, the automotive industry faces the challenge to "Change, adapt or die." So far, it is aggressively putting putting its money on the line.

NONDURABLE GOODS' MANUFACTURING: The pressure on productive capacity ceilings is most severe in this sector. Nevertheless, nondurable goods' producers appear quite concerned about major boosts in investment in an economic expansion overly long in the tooth. The latest survey does not offer evidence to dispel this perception. Total new appropriations were only 2.8% higher in the fourth quarter of 1987 than in the second quarter; expenditures were 21% higher. Thus, the backlog of unspent appropriations fell by 8 percent. The ongoing pace of investment, therefore, remains strong but there are lingering questions about is future vitality.

The most important nondurable goods' industry is petroleum refining. The instability of oil prices, which is being exacerbated by fears of a global supply glut, makes long-range planning in this industry hazardous. When oil prices collapsed in 1985, there were wholesale cutbacks in investment programs. The latest data suggest that the situation has settled down. New projects, however, appear at a standstill. Total appropriations were 23% lower in the fourth quarter of 1987 than in the second quarter; expenditures were 36% higher. That resulted in a 21% drop in the backlog of unspent appropriations.

Capacity ceilings are most squeezed in the paper and chemical industries. Yet new appropriations in the chemical industry were 30% higher in the fourth quarter than in the second versus a 40% drop for the paper industry. These data detail a mix of ongoing capacity problems and concerns about the sustainability of the economic expansion.

AVAILABILITY & ADEQUACY—CAPACITY & INVESTMENT FUNDS

The survey results clearly demonstrate that manufacturing executives became more concerned in the second half of 1987 about the capacity to generate sufficient output to meet demand. That was most notable among durable goods' producers. Only 7% of the respondents to the second quarter 1987 survey said that production facilities were insufficient relative to the ongoing rate of new orders. By the third quarter, that reading rose to 13%, followed by a jump to to 31% in the fourth quarter.

Consistent with heightened concern about the adequacy of productive capacity, more survey respondents reported in the fourth quarter that investment programs are being geared to expanding facilities. Durable goods' producers noted that 53% of the investment was for expansion, compared with 45% back in the second quarter. Though the capacity utilization rates are higher for nondurable goods' producers, executives in those industries said in the fourth quarter that 44% of their investment was for expansion, not much different from their responses back in the second quarter.

The survey respondents generally expect more difficulty lining up external funding for projects. Not surprisingly, therefore, they continue to plan to fund a somewhat higher-than-usual portion of investment from retained earnings and depreciation.

Ken Goldstein
April 26, 1988

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ATTENTION PC USERS: All data from the survey plus extensive government statistics are available on cost-effective diskettes, in LOTUS and other formats. Contact Linette Waters: 800-US-BOARD; in NYC, (212) 759-0900.

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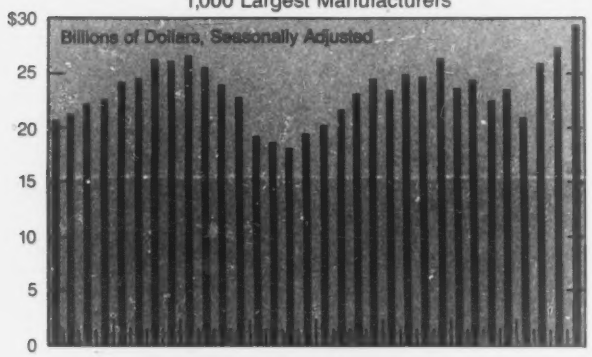
Economic and Business Environment Program

Manufacturing Investment Outlook

Volume 2, Number 1 Spring 1988

Capital Expenditures
1,000 Largest Manufacturers



Capital Appropriations
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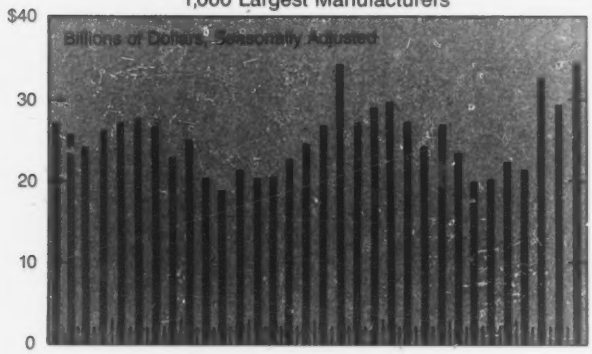
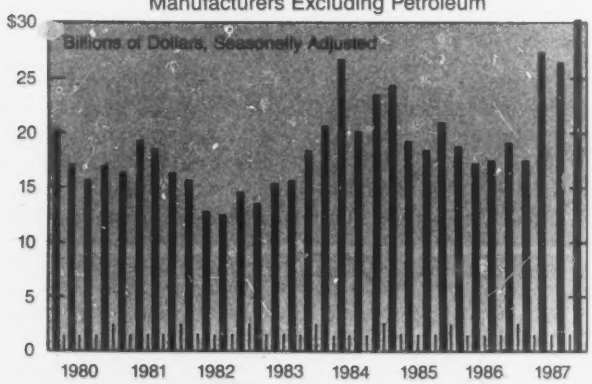


Capital Appropriations
Manufacturers Excluding Petroleum



Source: The Conference Board

MANUFACTURING INVESTMENT OUTLOOK

OVERVIEW:

With the U.S. economy operating at its highest level of capacity in three years, the climate appears to be quite propitious for a rise in investment spending, notwithstanding some concern about rising interest rates. Indeed, the prospect of paying more for investment funds may be causing a speed-up in capital spending plans right now.

The Conference Board's survey of Capital Appropriations and Expenditures for the fourth quarter of 1987 shows that plant and equipment spending was rising. Moreover, the rate of approval of new spending programs increased at a faster pace than ongoing expenditure, resulting in a buildup of the backlog of approved but as yet unspent appropriations. The surveyed executives also indicated that they expect to raise their overall capital investment budgets for 1988 significantly faster than anticipated growth in GNP. All in all, the survey paints quite an optimistic picture for business investment; and the timing may prove providential.

SUMMARY OF SURVEY RESULTS

Capital expenditures by the U.S.'s 1,000 largest manufacturers rose sharply in the last half of 1987, after several quarters of sluggish growth. Total capital spending rose 7% in the fourth quarter of 1987, preceded by a 5.6% rise in the third quarter.

Capital appropriations (the approval of new spending programs) were also up quite sharply in the fourth quarter of 1987, more than reversing a significant decline in the third quarter. Total appropriations increased by a sizable 16% in the fourth quarter, after declining by a little more than 8% in the prior quarter.

That capital spending on plant and equipment rose for two straight quarters is encouraging. That it was accompanied by slightly stronger increases in appropriations is doubly promising. Taken together, the result is a 2.9% rise in the backlog of approved but as yet unspent capital projects in the fourth quarter, compared to a 0.1% decline in the third quarter.

Rising expenditure, accompanied by strong gains in appropriations, as well as a build-up (albeit limited) in the backlog of appropriations, all suggest that manufacturing investment in new plant and equipment is gaining momentum. The surveyed executives indicated that their budgets will

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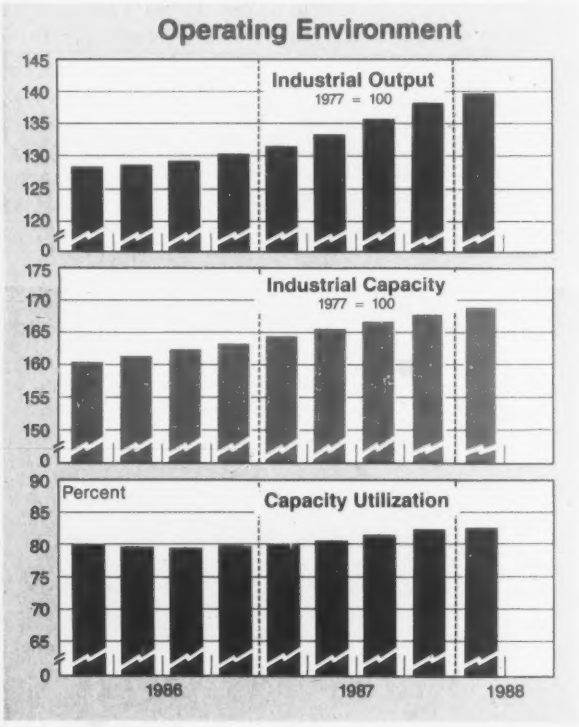
provide for expansive investment programs in 1988. Specifically, they said that their capital expenditures may be as much as 18% higher in 1988 than in 1987 and that capital appropriations may be up by as much as 12 percent. Given a consensus that nominal GNP will probably not rise by more than 6% to 6 1/2% this year, capital investment could rise twice as fast as overall economic activity or even a bit more.

A SCENARIO FOR INVESTMENT-DRIVEN GROWTH LATE IN THE BUSINESS CYCLE

The long-running, consumer-led expansion, by all accounts, is losing some steam. A pick-up in U.S. exports may take up some of the slack and keep the expansion going in 1988, however. The healthy rise in business investment indicated by the survey would also go a long way toward reducing the chance of recession this year. A careful look at the business environment suggests that the climate may be ripe for some investment-led growth.

CURRENT INDUSTRIAL CONDITIONS

Notwithstanding some pockets of weakness, industrial conditions over the last 12 months (ending in March 1988) have been fairly good. The center of strength has shifted away from production geared to domestic consumption and toward export-oriented and/or capital goods output.



Sources: Federal Reserve Board ; The Conference Board

- Industrial production: The output of consumer durables was only 1.8% higher in March than 12 months ago. Producers equipment, except defense related, was 7.4% higher. Total industrial production is expected to be 3.1% higher 12 months from now.

- Capacity utilization for durable goods industries was at 80.2% in March 1988, up from 77.9% one year earlier. Utilization in nondurable goods industries stood at 85.9% in March, compared with 83.9% one year earlier. Continued economic growth may result in production bottlenecks. According to survey results, this factor may be overcoming investor reluctance to commit additional funds at this late date in a very long expansion.

- New orders for durable goods, except defense related, rose 10.1% in February 1988, compared to one year ago.

- Inventory, except cars at the retail level, was 6.6% higher in January 1988 than one year ago. The buildup of inventory, despite strong gains in new orders, tempers what otherwise would be exceptionally good news.

- Prices of raw industrial metals were 31% higher in March 1988 than one year ago. That sharp gain is a recovery from an earlier and prolonged slump. It accompanies the surge in demand indicated by a 26% rise in new orders for primary metals over roughly the same period. It also spells higher costs for new machinery, a factor that could affect the depth and breath of capital investment.

- Exports of manufactured goods, except aircraft and parts, were up by 24% in February 1988 from one year ago.

- Manufacturing productivity was 3.4% higher in the fourth quarter of 1987 than one year earlier; hourly compensation was only 1.1% higher. Thus, unit labor costs actually declined by 2.2 percent. That decline more than offset some rise in nonlabor costs and helped keep profit margins up, a key ingredient for rising capital investment.

- Manufacturing after-tax profits were 38% higher in the fourth quarter of 1987 than one year earlier. Profit averaged 4.2 cents (on one dollar of sales) in the fourth quarter, compared with 3.3 cents one year earlier. (The profit to equity ratio was at 11.3%, compared to 8.5% one year earlier).

- Total business after-tax profit is expected to be about 15% higher in the first quarter of 1989. The pool of internal funds built up over the last two years raise expectations that 1988 will be another very profitable year.

- Total nonresidential fixed investment was 4.5% higher in the fourth quarter of 1987 than one year earlier. It is expected to rise by about 8.8% over the four quarters ending in the first quarter of 1989.

FOURTH-QUARTER SURVEY RESULTS INDUSTRY DETAIL

DURABLE GOODS' MANUFACTURING: Heretofore, the trend in capital investment by nondurable goods producers appeared stronger than in the durable goods industries. The latest survey results indicate a reversal. Indeed, one reason for the pick-up in the investment outlook is that appropriations by durable goods' producers are rising faster than expenditures.

- Total appropriations for durable goods' industries were 9.7% higher in the fourth quarter of 1987 than in the second quarter. That was a 6.3% gain for all manufacturing over the same period.

- Total expenditures by durable goods' industries were 6.5% higher in the fourth quarter of 1987 than in the second quarter, compared with a 13% gain for all manufacturing.

Given the fact that future plans to spend are rising faster than ongoing investment:

- The backlog of unspent appropriations for durable goods' industries was 20.7% higher in the fourth quarter of 1987 than in the second quarter, compared with only a 2.8% gain for all manufacturing.

Unfortunately, the outlook for individual durable goods' industries is unclear. For example, new appropriations by fabricated metals' producers were actually one and a half times higher in the fourth quarter of 1987 than in the second quarter. Conversely, appropriations in the nonferrous metals industry fell by one third over the same period. Thus, some primary metals' producers are priming the pump while others are cutting back.

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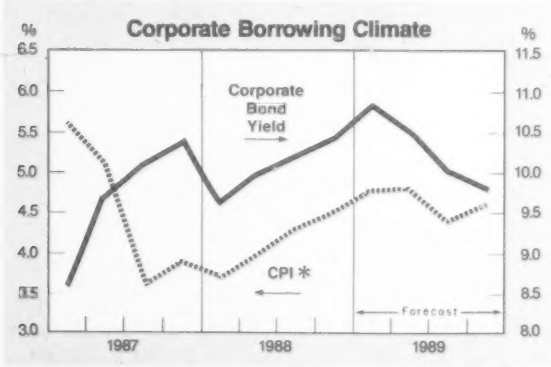

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Prepared by Ken Goldstein, Economic Analysis Program, Eric J. Kruger, Director.
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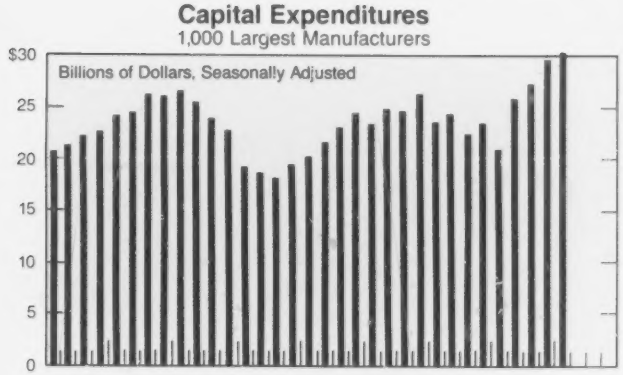
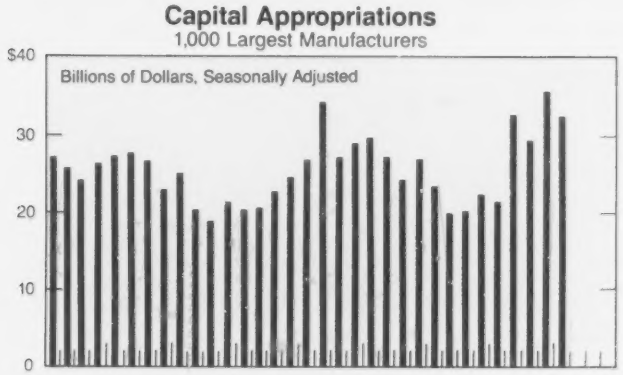
Economic and Business Environment Program

Manufacturing Investment Outlook

Volume 2, Number 2 Summer 1988





Source: The Conference Board

MANUFACTURING INVESTMENT OUTLOOK

OVERVIEW:

U.S. capital investment remains on an upward trend. Plant and equipment spending continues to rise as capacity use is at its highest level in eight years. Moreover, the average age of capital climbed steadily through the 1980s and business is attempting to modernize its aging stock. This strong investment trend continues to run its course notwithstanding interest rate hikes. Strong profit growth has generated the wherewithal to fund an unusually large share of the ongoing investment.

The Conference Board's survey of Capital Appropriations and Expenditures by the nation's 1,000 largest manufacturers for the first quarter of 1988 contained some mixed signals. Plant and equipment spending rose. But new appropriations (approval of new spending plans) fell sharply, after a very harp rise in the prior quarter. The decline in appropriations, then, may simply be a blip in the data trend. That conclusion is consistent with the rise in the backlog of approved but as yet unspent appropriations in the latest quarter. In any event, capital spending on plant and equipment is still climbing and may continue to expand considerably faster than GNP in the second half of 1988.

SUMMARY OF SURVEY RESULTS

Capital expenditures by the U.S.'s 1,000 largest manufacturers rose a quite substantial 16.8% cumulatively over the last three quarters, following several quarters of sluggish growth. The rise in expenditures continued in the first quarter of 1988, but at a much reduced pace (1.5%).

Despite a rise in spending, and a modest decline in new appropriations, the backlog of approved but as yet unspent appropriations continued to build. It was 5.7% higher in the first quarter of 1988 than in the second quarter of 1987. (Given a break in the data series between the first and second quarters of 1987, all comparisons in this report refer back to the second quarter of 1987 rather than to one year earlier).

The rising backlog, combined with three straight quarters of growth in capital spending on plant and equipment, suggests that manufacturing investment is maintaining some momentum. The lack of a sustained rise in new appropriations, however, raises questions about the durability of that trend. For the moment, though, the numbers look

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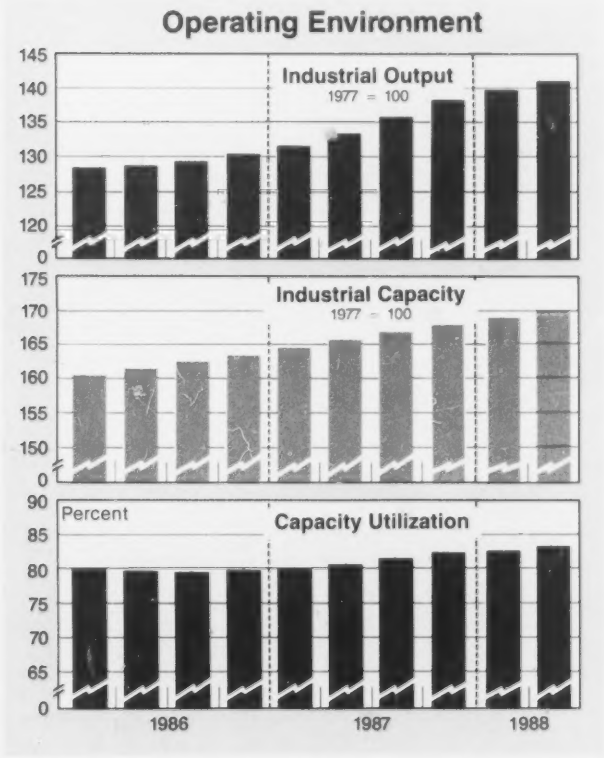
promising, the climate seems conducive for investment, and executives appear committed to more spending on plant and equipment.

Specifically, surveyed executives said that their capital expenditures may be as much as 21% higher in 1988 than in 1987, a bit above the previous survey. Given The Conference Board's forecast that nominal GNP will not rise by more than 6 1/2% this year, capital investment could rise much faster than overall economic activity. But survey respondents also noted that new appropriations are likely to rise by about 11% this year. That may indicate that very strong investment in 1988 may ease somewhat, but remain strong, in 1989.

CURRENT INDUSTRIAL CONDITIONS

Industrial conditions (over the twelve months ending in June 1988) have been very strong and are likely to remain so in the near term. This strength is adding impetus to investment programs aimed at modernization and expansion.

• Industrial production: The output of consumer durables was 4.3% higher in June than one year earlier. Producers equipment, except defense related, was 9.1% higher. But total industrial production is expected to be up by only 0.9% 12 months from now.



Sources: Federal Reserve Board ; The Conference Board

• Capacity utilization for durable-goods' industries was at 81.7% in June 1988, up moderately from 77.8% one year earlier. Utilization in nondurable-goods' industries stood at 85.2% in June, up from 83.9% one year earlier. While the utilization rates have not been very rising much in recent months, they remain quite high.

• New orders for durable goods, except defense related, were 11.1% higher in June 1988 than one year ago.

• Inventory, except cars at the retail level, was 7.8% higher in May 1988 than one year ago. The inventory build-up, despite strong gains in new orders, suggests that producers anticipate stronger growth in industrial output than The Conference Board's forecast.

• Prices of raw industrial metals were 11% higher in June 1988 than one year ago. New orders for primary metals rose 17.1% over the same period. The rise reflects very strong industrial demand. The related higher costs of new machinery could adversely affect the depth and breath of capital investment.

• Exports of manufactured goods were 27% higher in May than one year ago.

• Manufacturing productivity was 2.8% higher in the first quarter of 1988 than one year earlier; hourly compensation was only 4.6% higher. Thus, unit labor costs rose 1.7%, after declining by 2.2 percent in the prior quarter. Relatively stable labor costs (though the Employment Cost Index did move up in the second quarter) and only modest increases in nonlabor costs helped keep profit margins up, a key ingredient for rising capital investment.

• Manufacturing after-tax profits were 49% higher in the first quarter of 1987 than one year earlier. Profit averaged 6.3 cents (on one dollar of sales) in the first quarter, compared with 4.6 cents one year earlier.

• Total business after-tax profit is expected to be about 12.7% higher in the second quarter of 1989 than it is now. While that is a very bullish forecast, it clearly suggests that the very strong profit recovery will moderate. This, in turn, would mean a slower rise in the internal funds available for investment.

• Nonresidential fixed investment was 12.1% higher in the second quarter of 1988 than one year earlier. It is expected to rise by about 5.1% over the next four quarters.

• Foreign direct investment in the U.S. appears to be matching the pace of domestic investment. The recent Commerce Department report cites the strong pace of domestic spending on plant and equipment, together with favorable economic conditions, a lower dollar, and an improved trade balance, as factors supporting foreign investment.

• Commerce Department data show that the average age of capital goods rose steadily, from about 5.5 years in 1982 to almost 6 years in 1986 (close to the highest average reached during the postwar period). The average fell in 1987

and may improve further given the ongoing rise in equipment spending.

FIRST-QUARTER SURVEY RESULTS: INDUSTRY DETAIL

DURABLE-GOODS' MANUFACTURING: Up until the fourth quarter of 1987, capacity utilization had been higher in the nondurable-goods' industries than in durables, and so had capital investment. Capacity use remains higher in the nondurable-goods' sector. But in both the fourth and first quarter surveys, capital expenditure on plant and equipment was stronger in the durable-goods' industries than in nondurables.

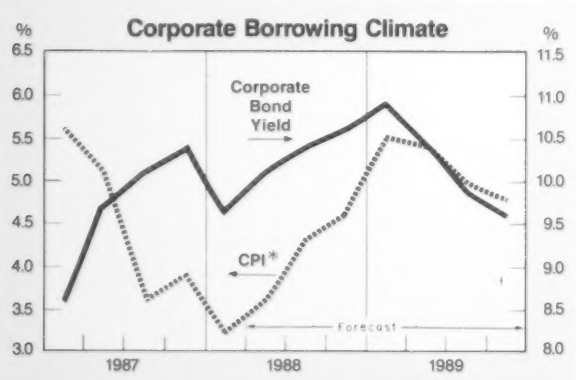
- Total appropriations for durable-goods' industries were 8.4% lower in the first quarter of 1988 than in the second quarter of 1987. The comparable drop for all manufacturing was 0.7 percent.

- Total expenditures by durable-goods' industries were 17.8% higher in the first quarter of 1988 than in the second quarter of 1987, compared with a 16.8% gain for all manufacturing.

Despite the fact that planned expenditures are not rising faster than ongoing investment:

- The backlog of unspent appropriations for durable-goods' industries was 17.6% higher in the first quarter of 1988 than in the second quarter of 1987, compared with only a 5.7% gain for all manufacturing.

Most of the durable-goods' producing industries show a rising trend in capital spending over the past three quarters, and in some cases the increases are outsized. For example, plant and equipment spending by instrument producers was a full 125% higher in the first quarter of 1988 than in the second quarter of 1987. That good news is reinforced by 66% rise in planned spending (new appropriations) over the same time period, which may indicate that this industry's capital spending boom is not yet nearing completion. Capital spending in the "other durable goods" category rose by 81% over the last three quarters: new appropriations fell by 80 percent.



* Annualized percentage change from previous quarter

Capital spending by iron and steel producers rose by 75% in the last three quarters. New appropriations rise 40% over the same period. Big increases in both actual spending and investment plans paint a picture of quite extensive rebuilding in this one-time quintessential "rust-belt" sector.

Another hard-hit sector, the domestic automobile industry, hiked its capital spending by 30% over the last three quarters. The increase was not as dramatic as steel but nevertheless is sending signals of renewed competitiveness. A 49% rise in new appropriations points to an industry intent on rebuilding facilities.

Both electric machinery and nonferrous metal producers increased their spending by just under 30% over the same period, but the rise in new appropriations was much lower. In other durable-goods' sectors, the gains in capital spending or new spending plans were generally modest to declining.

NONDURABLE-GOODS' MANUFACTURING: The pressure on productive capacity is most severe in this sector. And concern about stepping up capital spending in an economic expansion already overly long in the tooth remains apparent.

Rubber is the sole nondurable-goods' industry with the kind of outsized capital spending growth seen in the durable-goods' industries and for similar reasons: The rubber industry is recovering from earlier adversities. Indeed, the rubber and steel industries appear to be undergoing the same kind of renewed effort. Rubber producers increased their capital spending by 122% over the last three quarters and raised planned spending by 112 percent.

The problems of the petroleum industry are of more recent vintage. The aggressive nature of this industry's strategic planning can be seen in its 24% hike in capital spending, coupled with a 13% rise in new appropriations.

Capital spending in the chemical industry rose by about 14% over the last three quarters. Increases in the paper and food processing industries were comparable. New appropriations in the chemical industry shot up by 52 percent, the figures were significantly lower for paper and food processing firms.

Overall, the nondurables mirror their durable-goods' producing counterparts: A few very strong industries; others already showing signs of weakening capital spending, and a few that may soon join those in the ranks of flat-to-declining capital investment.

AVAILABILITY & ADEQUACY— CAPACITY & FUNDING

The survey results suggest that manufacturing executives have become less concerned about having adequate capacity to meet demand. In the second quarter 1987 survey, only 7% of durable-goods' respondents said their facilities were insufficient relative to the rate of new orders. By the fourth quarter; that reading rose 31 percent apparently, the spurt

in capital spending over the last three quarters helped to trim that survey response back to 19% in the first quarter.

Durable-goods' producers noted that 56% of their capital investment in the first quarter of 1988 was for expansion, compared with 53% and 45%, in the prior two quarters, expectively. Thirty-eight percent of the nondurable-goods' producers said in the first quarter that their investment was for expansion, compared with 44% in the prior quarter.

SOURCING FUNDS

In the fourth quarter survey, most respondents agreed that external financing would not get any easier, suggesting that capital investments would probably continue to be funded largely from internal sources.

Responses to the first quarter survey were much the same. The prime interest rate has been raised twice since that survey and it appears a safe bet that the second quarter survey will show no change in plans. The real question, however, is what will happen to investment plans if the rise in profits begins to slow. No longer able to fund a somewhat higher-than-usual portion of investment from retained earnings and depreciation, firms may not be willing to pay what could well be higher capital costs to carry out their plans.

Ken Goldstein
July 26, 1988

TABLE 1
SEASONALLY ADJUSTED DATA IN MILLIONS OF CURRENT DOLLARS

	CURRENT DOLLARS						PERCENT CHANGE OVER PRIOR QUARTER			
	IV-86	I-87	II-87	III-87	IV-87(r)	I-88(p)	II-87 to III-87	III-87 to IV-87	IV-87 to I-88	II-87 to I-88
ALL MANUFACTURING										
Opening backlog	80,713	69,720	69,171	74,635	74,554	78,061				
Newly approved	22,097	21,441	32,257	29,561	35,909	32,034	- 8.4%	-21.5%	-10.8%	- 0.7%
Canceled	9,791	1,189	860	2,261	2,582	890				
Capital expenditure	23,299	20,801	25,933	27,361	29,820	30,279	5.6%	8.9%	1.5%	16.8%
Closing backlog	69,720	69,171	74,635	74,554	78,061	78,926	- 0.1%	4.7%	1.1%	5.7%
MANUFACTURING EX. PETROLEUM										
Opening backlog	56,914	53,015	51,468	55,369	57,685	62,514				
Newly approved	19,016	17,513	27,227	26,503	32,084	26,368	- 2.7%	21.1%	-17.8%	- 3.2%
Canceled	3,008	1,354	540	750	1,497	329				
Capital expenditure	19,907	17,706	22,786	23,437	25,708	26,384	2.9%	9.7%	2.6%	15.8%
Closing backlog	53,015	51,468	55,369	57,685	62,514	62,169	4.2%	8.4%	- 0.6%	12.3%
DURABLE GOODS										
Opening backlog	32,401	28,261	26,190	28,498	31,430	35,236				
Newly approved	10,807	9,746	16,515	17,208	20,245	15,124	4.2%	17.6%	-25.3%	- 8.4%
Canceled	2,032	693	201	306	402	350				
Capital expenditure	12,915	11,124	14,006	13,970	16,037	16,496	- 0.3%	14.8%	2.9%	17.8%
Closing backlog	28,261	26,190	28,498	31,430	35,236	33,514	10.3%	12.1%	- 4.9%	17.6%
NONDURABLE GOODS										
Opening backlog	48,312	41,459	42,981	46,137	43,124	42,825				
Newly approved	11,290	11,695	15,742	12,353	15,664	16,910	-21.5%	26.8%	8.0%	7.4%
Canceled	7,759	496	659	1,955	2,180	540				
Capital expenditure	10,384	9,677	11,927	13,411	13,783	13,783	12.4%	2.8%	0.0%	15.6%
Closing backlog	41,459	42,981	46,137	43,124	42,825	45,412	- 6.5%	- 0.7%	6.0%	- 1.6%

Note: A change in weighting procedure, data prior to second quarter 1987 may not be comparable to survey results after that date.

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